

AMENDMENTS TO THE DRAWINGS:

In regard to the stated objections on Figure 5B, Applicants have further amended Figure 5B to reflect that the threaded end **27b** of spacer **27** is clearly illustrated as engaged with female threads of the second component. Element **28** has been properly changed to **29**. A replacement page for Figure 5B is attached to this Amendment and Response.

REMARKS

This Amendment and Response is responsive to the Office Action dated July 23, 2010. In the Office Action, Claims 1-2 and 4-16 were rejected. Applicants appreciate the Examiner's efforts and thoroughness in reviewing this application and have sought to remedy each of the objections.

AMENDMENTS TO THE DRAWINGS

The Office Action objected to Figures 1 – 4 because replacement sheets were filed reflecting no changes. The Examiner is correct in that no substantive changes were made to Figures 1-4. Replacement sheets for Figures 1 – 4 were provided because moving drawing 5B to a separate page changed the number of pages in the Figures from four pages to five pages. Consequently the page numbering at top of each of the pages changed and for that reason Applicants provided replacement sheets for each of Figures 1 – 5B that reflected the correct number of pages thereon.

In regard to the stated objections on Figure 5B, Applicants have further amended Figure 5B to reflect that the threaded end **27b** of spacer **27** is clearly illustrated as engaged with female threads of the second component. Element **28** has been properly changed to **29**.

AMENDMENTS TO THE SPECIFICATION

The specification has been properly amended to identify elements **26a** and **26b**, including providing a corrected replacement paragraph. The amendments are fully supported by the drawings as originally filed and do not add subject matter. Applicants respectfully request withdrawal of the objections.

REMARKS REGARDING CLAIM REJECTIONS

The Office Action rejected Claim 8 under 35 U.S.C. § 112 second paragraph as being indefinite for inconsistencies related to reference to the first and second components and ends of the spacer between the first and second components. Applicants appreciate the Examiner for carefully reading the claim to identify these inconsistencies. Applicants have amended claim 8 to correct the referenced issues.

The Office Action further rejected Claims 1-2, 4-5, 6-7, 9-10, and 16 under §102(b) as being anticipated by Hughes (US 5,950,744). Applicants appreciate the thoroughness with which the Examiner addressed each claim specifically. Applicants respectfully submit that the presently amended independent claims, Claims 1, 6, 7, 8, and 9 are distinguishable and patentable over the '744 Hughes reference as written. The Office Action also rejects claims 11-12 and 15 under 35 U.S.C. § 103(a) as being obvious over Hughes '744, and rejects claims 13-14 as being obvious over Hughes '744 in view of Hughes (US 2005/0023831 A1). The remarks below illustrate why Hughes fails to anticipate or render obvious the presently amended claims in view of Hughes '744 and Hughes '831.

Applicants respectfully contend that the presently amended independent claims require that there is no overlap between the first set of threads of the first component and the second set of threads of the second component. Applicants have also previously amended (and retain in the present amendments) the independent claims to recite that the first set of threads are also synchronous with the second set of threads.

On page 9 of the present Office Action, regarding Hughes '744, the Examiner points out that "*Hughes' primary concern is alignment of the joined pipes so as to permit a collar to be threaded onto the joint. Hughes speaks to the precision required to effect this alignment so as to readily permit threading of the collar thereon. . . . As such, the joined pipes form a 'synchronous' thread.*" Applicants respectfully traverse.

Applicants agree with the Examiner's above statement and interpretation of Hughes. Due to the necessity of Hughes '744 having a synchronous thread course between the overlapping first and second component ends, it is critical to Hughes that the straight threads of the two components are precisely aligned to avoid any shift in thread engagement between the mated components. As explained in Hughes '744, particular care must be exercised when machining the threaded ends to assure precise mating of the threads. Even a slight circumferential displacement of the starting position of the thread course on one component end with respect to the companion mating component can inherently produce thread misalignment when the first and second components are engaged. Hughes '744's connections require precision to properly align the bisected pitches and fabricate an operable connection such that the upper and lower faces of the adjacent first and second components engage each other as intended when the collar is threadably engaged on the components. Misalignment can prohibit

the collar from rotating due to the compounded, excessive friction occurring at each of the bisected thread junctions. Correcting the misalignment means that the mating shoulders 24 and 33, and 28 and 30 are necessarily disengaged with each other by a distance of the amount of correction needed to align the threads, which could be up to one thread pitch in displacement. Such aligning means loss of shoulder engagement and any benefits thereof. Even if the thread is cut on adjacent pairs of component sections to facilitate matched pitches, each companion pair then becomes a unique custom connection whereby only those specific components of the companion pair may be rejoined later in the field to the same specific mating component with which it was threaded. This makes mass production very difficult. If one joint requires replacement, it then becomes extremely difficult to duplicate that joint in order to provide exact thread mating again.

Hughes '744 recognizes these inherent problems and as pointed out by the Examiner in the present Office Action, Hughes teaches particular methods in attempt to avoid such issues. For example, in column 10 of Hughes '744, beginning on line 42 and continuing at least through column 11, line 30, Hughes explains the difficulty and criticality of preparing a pair of companion components. Hughes explains the necessity of and provides a method for attempting to obtain the required precision required, even going so far as to recommend that the same person should prepare both mating components and the collar to assure the required precise alignment of the threads. Hughes discloses a relatively complex process to attempt precise threading.

Another downside of Hughes '744 process, however, is that companion manufactured mating components are likely not universally interchangeable with each other. If a problem is experienced with one tubular member requiring a new connection or rethreading, then the adjacent tubular member likely also requires rethreading or replacement to assure proper engagement therewith. These types of problems are illustrative of the very problems that the presently claimed subject matter was invented and developed to overcome.

The presently claimed subject matter overcomes these complexities by providing an apparatus and system that does not require such intricate manufacture and use process. Respectfully, Applicants contend that Hughes '744 fails to teach or suggest a connection having straight threaded first and second components that do not have overlapping threads.

The presently amended independent claimed subject matter clarify that the straight threads of the first component do not overlap the straight threads of the companion, second component. This is significant because, as explained above, the straight threads of the claimed apparatus eliminates Hughes '744's multiple abrupt thread edges at each of the thread junctions between adjacent first and second thread components. Hughes '744 fails to teach, suggest, or otherwise disclose elimination of this issue, such as but not limited to the potential thread "stops" and/or extreme friction potentially caused by such manifold thread junctions that can occur when threading a collar over the adjacent companion first and second tubular components, even with a slight misalignment between the adjacent thread pitches. Hughes '744 in fact is limited to teaching overlapping threads and goes to great length to caution how to avoid thread misalignment that can result as a consequence of his tool joint design. On the other hand, the claimed subject matter eliminates all of these issues by providing synchronous but sequential (e.g., non-overlapping) threads between the first and second components. The claimed subject matter also does not require substantially simultaneous fabrication as set forth in Hughes 744's columns 10 and 11, facilitating easily swapping adjacent tubular components in the field.

In addition to the anticipation rejections, Claims 11- 15 were rejected as obvious in view of Hughes '744. For the reasons Hughes is not a suitable reference for anticipation rejection, Hughes also fails to support an obviousness rejection for these dependent claims.

In this Response, together with the prior Responses, Applicants have addressed each and all of the issues raised in the various Office communications. Applicants respectfully submit that each of the objections and rejections has been rendered moot and/or overcome by the foregoing amendments and remarks. In light of this Amendment and Response, Applicants submit that the present application is in condition for allowance and respectfully request reconsideration of the application in combination with this Amendment and Response. If the Examiner has any questions or if a telephone interview would in any way advance prosecution of the application, the Examiner is encouraged not to hesitate to contact the undersigned attorney of record.

Respectfully submitted,

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